In vivo anti-tumor effects of Azadirachta indica in rat liver cancer.

ABSTRACT

The aim of the current study is to determine the effects of A. indica aqueous extract on Diethyl Nitrosamine (DEN) and 2-Acetylaminofluorene (AAF) induced-hepatocarcinogenesis on Spraque-Dawley rats. The plant, A. indica, extract was prepared into 5% w/v in distilled water. Spraque-Dawley male rats were divided into 3 groups of 7 rats each. The groups were: DEN/AAF-induced rats (C), DEN/AAF-induced rats treated with 5% A. indica (CAI) and normal control group (N). In situ detection of DNA fragmentation, TUNEL assay, was used to investigate the apoptogenic properties of A. indica. RT-PCR was used to amplify AFP mRNA. TUNEL assay supported that there was more numbers of apoptotic cells in the liver of (CAI) group compared with (C) group. AFP gene was suppressed by the supplementation of A. indica to DEN/AAF rats (CAI). A. indica (Neem) has revealed a chemopreventive capability by regressing the hepatocarcinogenesis induced by DEN/AAF carcinogens. This capability can be seen from the modulating effects of the plant in the biological indicators used in this study.

Keyword: Azadirachta indica; Apoptosis; AFP gene; DEN/AAF; Rats.